

Motion Coordinator Application Note

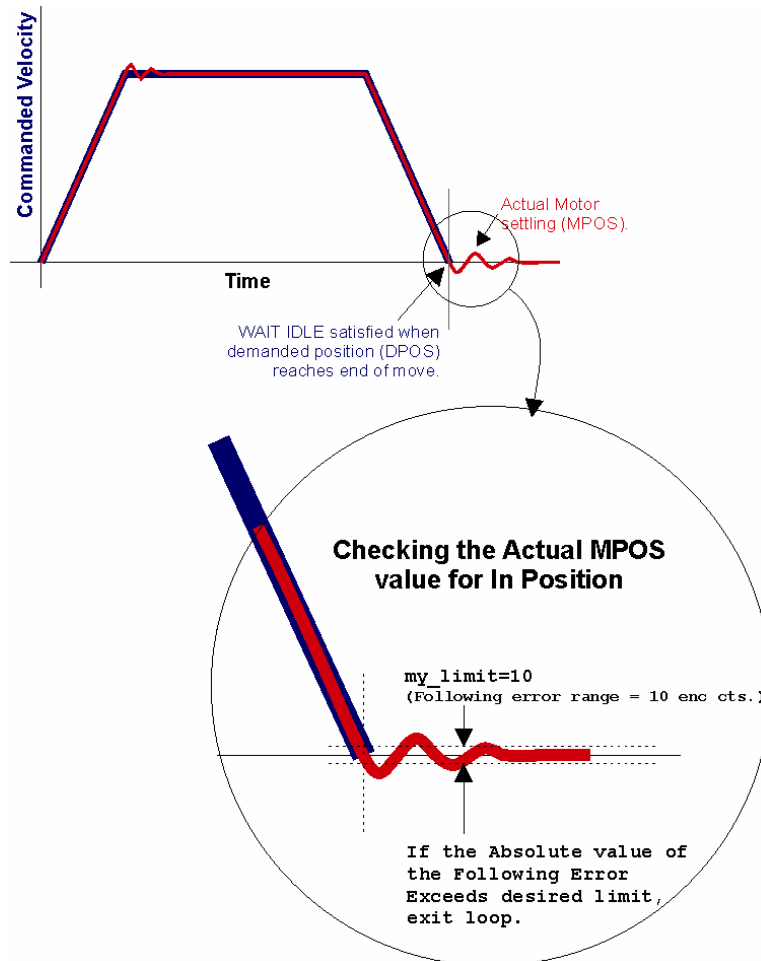
Number:MC-1053, Revision 1, 2/28/2007

Subject: In Position Settling using MPOS

In some applications, it is desired to have a MC BASIC program wait for the servo's 'actual' position (MPOS) to be settled before going on.

In normal operation a MOVE is considered complete when the MC BASIC parameter DPOS (Demanded Position) reaches its target. The WAIT IDLE is satisfied when DPOS finishes. This is acceptable in most applications. However if the actual measured position (MPOS) is the criteria for motion complete, a simple MC BASIC routine can be used.

The example below uses a predetermined settling time (in ms) and looks at the absolute value of the following error (FE). When the magnitude of the FE value stays within the set limit, and within the time, the motion is consider complete.



Motion Coordinator Application Note



Number:MC-1053, Revision 1, 2/28/2007

Subject: In Position Settling using MPOS



Published by the Engineering Department

Emerson Industrial Automation, Control Techniques Americas

12005 Technology Drive · Eden Prairie, MN ·55344

Phone: 800.397.3986 Fax: 952.995.8020

Motion Coordinator Application Note

Number:MC-1053, Revision 1, 2/28/2007

Subject: In Position Settling using MPOS

Example MC Basic code for sampling the
Following Error (FE) to determine In Position.:

```
time=5 `sample time in ms
MOVE(1500)
WAIT IDLE
settling_position=ABS(FE)
WHILE settling_position > my_limit
    sample1=ABS(FE)
    WA(time)
    sample2=ABS(FE)
    WA(time)
    IF sample1>sample2 THEN settling_position=sample1
    IF sample2>sample1 THEN settling_position=sample2
WEND
.
.
```